SECOND ANNUAL
DOD ACQUISITION INSIGHT DAYS
20-22 APRIL 2009 • DAYTON, OHIO

Acquisition from a Research and Development Perspective

Maj Gen Curtis M. Bedke
Commander, Air Force Research Lab

AFRL

THE AIR FORCE RESEARCH LABORATORY

LEAD | DISCOVER | DEVELOP | DELIVER

Ack! Fyzix 102: Evrythin I Lurnd About Ackwizishun, I Lurnd Frum Rock 'n' Roll!

22 April 2009

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Ivory Tower to Monster Garage: The AF Warfighter's S&T Nirvana!

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AFRL Mission

"You Say You Want A Revolution?!"

It's not just about the science…
it's about *leadership* in

Putting It Simply…

We Lead Discovery
(Tech Push)

We Respond To Needs
(Requirements Pull)

AFRL – Value to the Warfighter

- **We stay constantly engaged and responsive to evolving challenges and opportunities**
- **We deliver the most cost effective S&T regardless of source**
- **We take a very disciplined approach to prioritizing our portfolio**
- **We support both the current fight and the future Air Force**
- **We have a sustained track record of successful**

Air Force Materiel Command

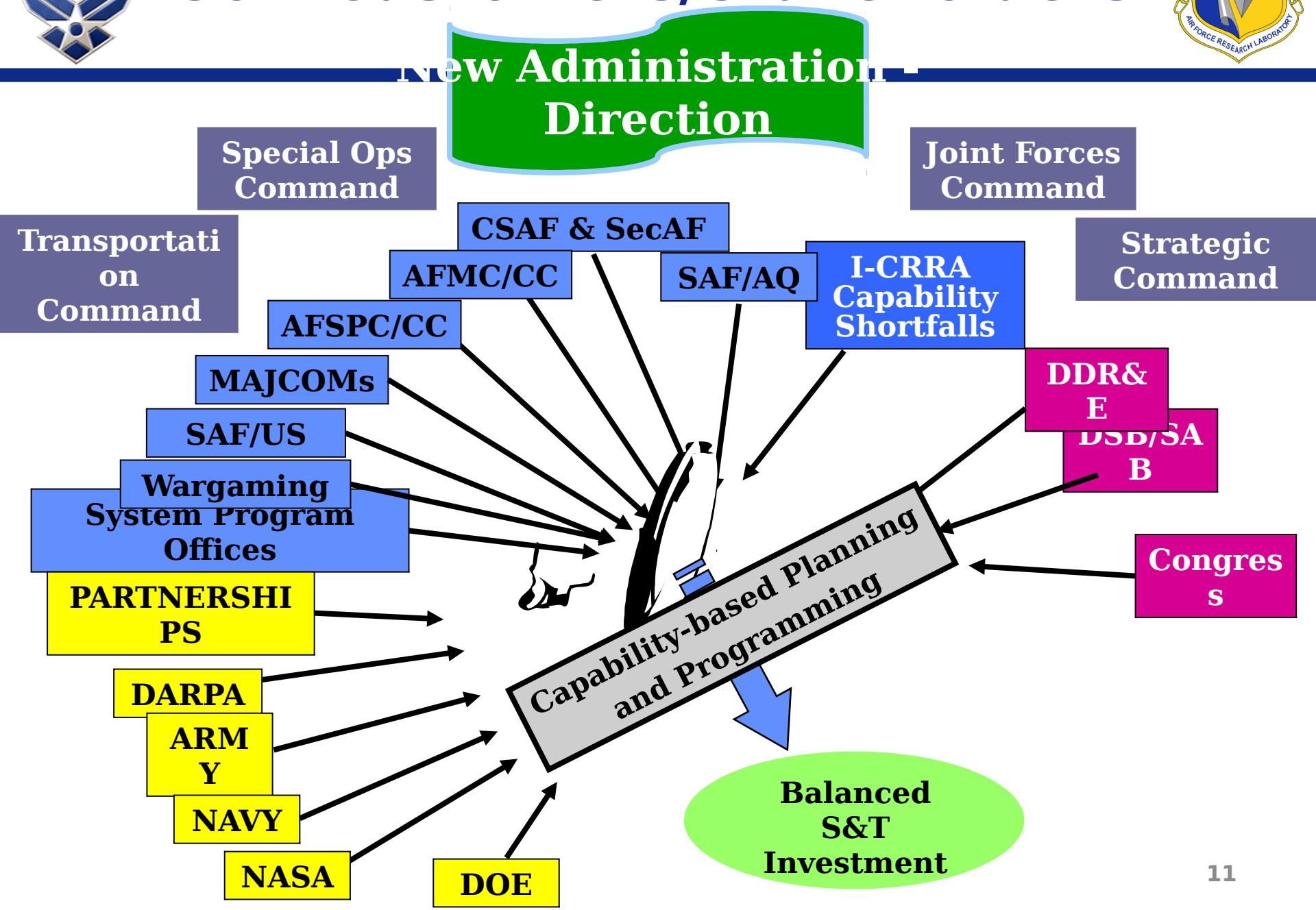
Research & Technology Development	System Development & Prodcution	Test & Evaluation	Operation & Support

How AFRL Supports the Acquisition Process

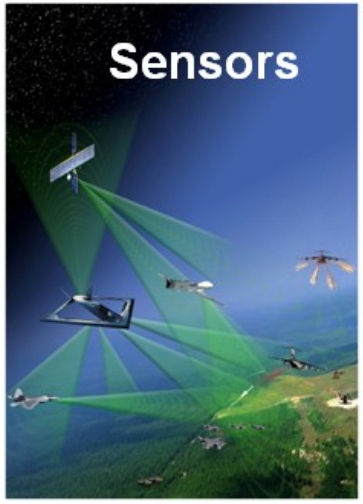
- Participate on Developmental Planning (DP) teams
- Engage MAJCOMs and Product/Logistics/Test Centers to identify and address their "Technology Needs”
- Mature technologies needed by emerging and existing programs
- Facilitate Technology Transition
- Provide technical Subject Matter Experts for advice and counsel to acquisition and sustainment program teams
- Participate on formal Air Force Technology Readiness Assessment (TRA) Independent Review

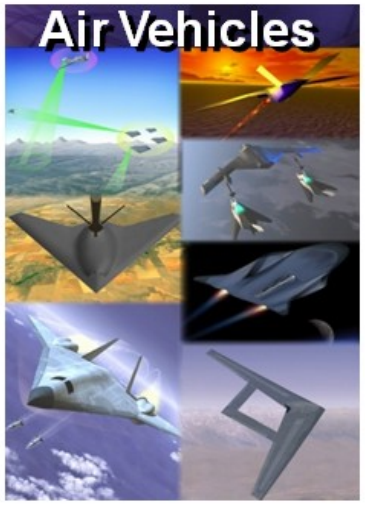
DoD 5000.02 Changes Emphasize Greater Discipline and Rigor, Particularly In the Early Acq Phases, But Do Not Change the Nature of AFRL’s Support to the Acq Process

S&T Customers/Stakeholders



Ten Technical Directorates

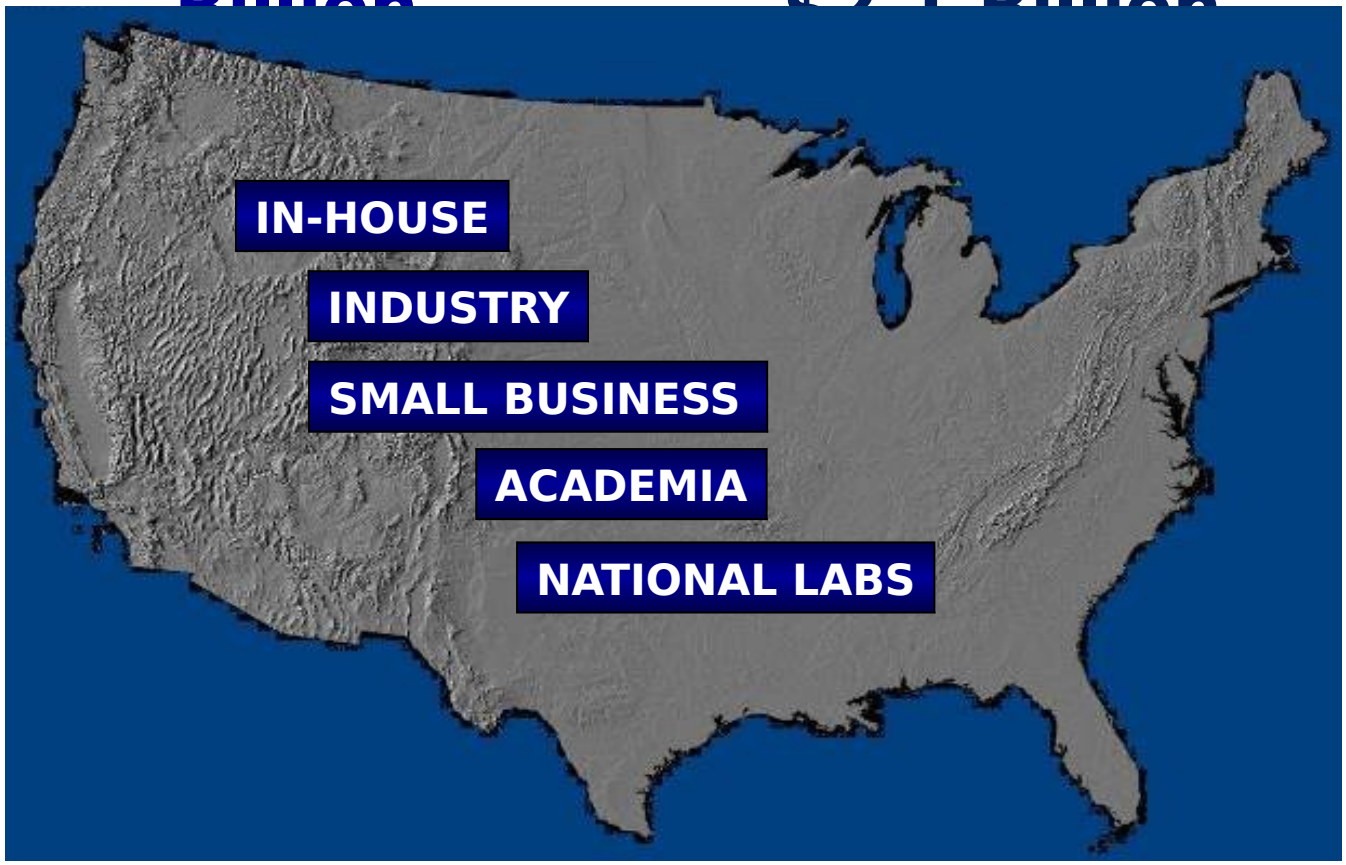




Funding Leverage

"Money…it's a gas!"

AFRL $2.1 Billion + **External Funds $2.1 Billion**



Thousands of Knowledge Providers

FY08 Appropriated Funding

We support both the current fight and the future Air Force

Lead Discovery

Generate

Understanding of Scientific and Technical Opportunities

Long-Term Focus

Lead / Discover

Core Process 1

Requirements Pull

Deliver

Needed Technology Options

Mid-Term Focus

Develop / Deliver

Core Process 2

Rapid Response

Innovate

Solutions to Near-Term Needs

Near-Term Focus

Solve / Deliver

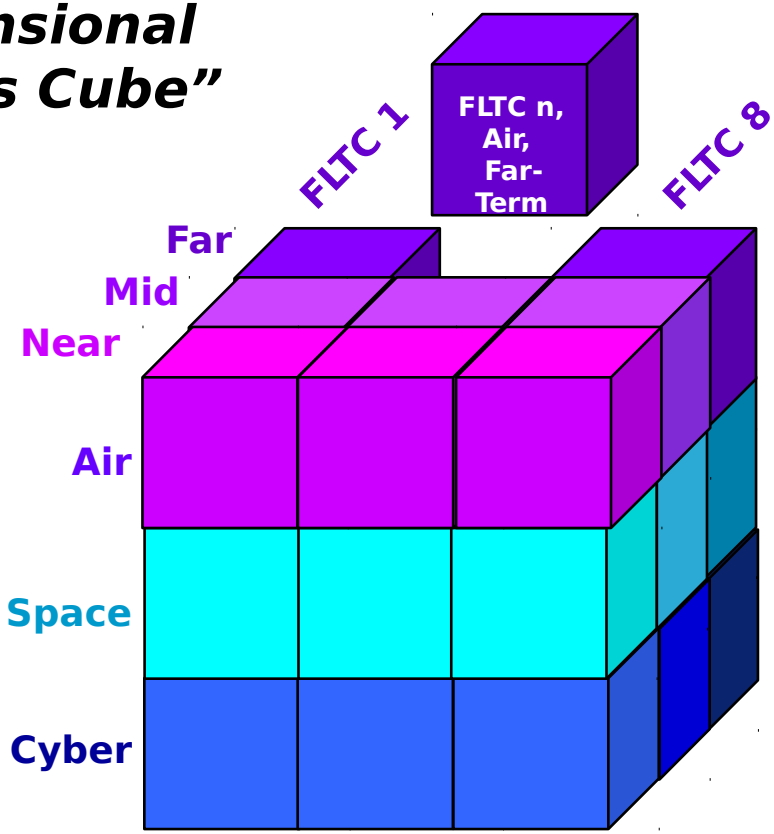
Core Process 3

Focused Long Term Challenges and Discovery

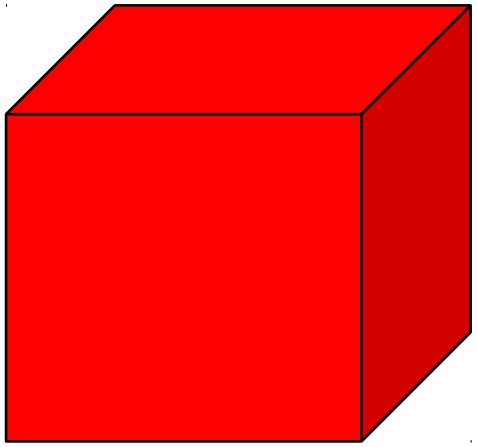
FLTC #1	Anticipatory Command, Control &
FLTC #2	Unprecedented Proactive Intelligence, Surveillance and Reconnaissance (ISR)
FLTC #3	Dominant Difficult Surface Target Engagement/Defeat
FLTC #4	Persistent & Responsive Precision Engagement
FLTC #5	Assured Operations in High Threat Environments
FLTC #6	Dominant Offensive Cyber Engagement
FLTC #7	On-demand Force Projection, Anywhere
FLTC #8	Affordable Mission Generation & Sustainment
Discover	Questions the Air Force doesn't even know to ask

Entire AFRL Portfolio Must be Viewed in Multiple Dimensions

Example:
N-dimensional
"Rubik's Cube"



FLTCs



Discovery: Defines the Art of the Possible

Core Technical Competencies underlie both FLTCs and Discovery

We have strong ties to stakeholders

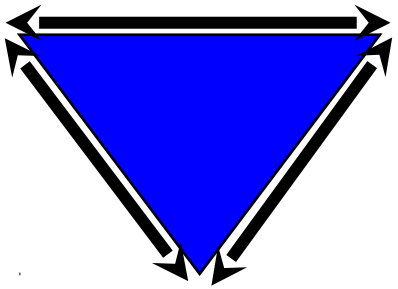
- **Applied Technology Council's link to MAJCOM priorities, PEO/TEO link to acquisition, industry days link to industry, AFOSR links to academia**
- **It's an open exchange – we listen to what they want, we tell them what we can do**

Lab ★★

- Identify ATD Candidates
- POM for Technology Programs
- Develop Transitionable Technologies

User ★★★

- Define Requirements
- POM Transition Funds



Product Center ★★★

- Interpret Requirements
- Build Transition Program
- Integrate Into Systems

Applied Technology Councils

Lab	Product Center	MAJCOM
AFRL	ASC/CC	ACC/CV
	ESC/CC	AFSOC/CC
	SMC/CC	AMC/CV
	AAC/CC	AFSPC/CV
		AFCYBER(P)/CC
		AETC/CV

- Commission ATDs
- Provide S&T Investment Guidance
- Ensure Tech Transition

“I Love You, You Love Me, We’re a Happy Family!”

- Applied Technology Councils
- Acquisition Sustainment Reviews
- PEO/TEO Conferences
- IRAD & Industry Days
- SBIRs
- Ad Hoc CP3

Criteria for Taking On a Project
"We Can Work It Out"

- **Is it Worthy?**
- **Are we the right people to do this?**
- **Can we make acceptable progress?**

A few words about…
Technology Transition!

- **The Keys to Technology Transition:**
  - **Understanding What You're Trying to Accomplish**
  - **Establishing a Customer**
  - **Having a Defined Transition Plan & Process**
  - **Constant Communication with our Customer**
  - **Maintaining Discipline (Tough Love)**
  - **$ Money**

Do it Early. Do it Often. Finish the Job.

The Art of Science & Technology

- **S&T Nirvana: Healthy Balance / Tension in these:**
  - **Requirements: Customer Pulls / Lab "Eureka!" Pushes**
  - **Research: Internal Lab / External Academic & Industry**
  - **Funding: Internal AF / External Customers**
  - **Focus: Current Urgent Needs / Future Important Vision**
  - **Risk: Assuring Tech Transition / High-Payoff Concepts**
- **Ac**

Balancing these is our most important and difficult responsibility.
We think we're getting it about right.

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